February 28, 2007

MEMORANDUM

SUBJECT: Science Review in Support of the Registration of Z112-009, Containing 1.5% (S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate]) As Its Active Ingredient.

Decision Number: 368776
DP Number: 335085
EPA File Symbol Number: 63823-LL
Chemical Class: Biochemical
PC Code: 105402
Active Ingredient Tolerance Exemptions: 40 CFR 180.1033
MRID Numbers: 46996501 through 46996509

FROM: Angela L. Gonzales, Biologist /s/
Biochemical Pesticides Branch
Biopesticides & Pollution Prevention Division (7511P)

TO: Gail Tomimatsu, PhD., Regulatory Action Leader
Biochemical Pesticides Branch
Biopesticides & Pollution Prevention Division (7511P)

ACTION REQUESTED

In response to the request for additional information discussed in a memorandum from A.L. Gonzales to G. Tomimatsu dated October 26, 2006 and relayed in a letter from BPPD to the registrant dated November 16, 2006, revised Confidential Statement of Formulas (CSF) dated November 07, 2006, a revised label, additional product chemistry data in MRID 46996501, additional product performance data in MRIDs 46996502 through 46996508, additional data regarding non-target toxicity in MRID 46996509, and responses to the requests for additional information in a cover letter have been submitted.

THE FOLLOWING CONTAINS CONFIDENTIAL BUSINESS INFORMATION

RECOMMENDATIONS AND CONCLUSIONS

1. The product chemistry submission is ACCEPTABLE, pending submission and review of requested data below.

MRID 46996501- ACCEPTABLE

1a. Storage stability and corrosion characteristics data must be submitted to the Agency upon completion.

2. The toxicology submission is UNACCEPTABLE, but upgradeable pending resolution of the deficiency listed below.

2a. Pesticide Registration (PR) Notice 2001-2 is not applicable to this product because the EP contains an EPA List 3 "Inerts of Unknown Toxicity" inert ingredient ([redacted]) which is present at greater than 0.1% in the formulation, and does not have a purpose as a carrier or binder. The registrant must fulfill the toxicity data requirements under 40 CFR 158.690(c) with adequate data, relevant scientific rationale, and/or bridging rationale from another substantially similar product.

3. The product performance submission is UNACCEPTABLE, but upgradeable pending resolution of deficiencies listed below.

3a. The registrant indicated in the cover letter that the EP is a "me-too" of another registered product, but did not identify the product. Efficacy studies were submitted from literature with respect to Altosid® formulations. The name and in some cases, concentration of the test substance are not the same in each study. If the registrant is requesting to bridge these studies to their formulation, their product must be identical or significantly similar (identity and concentration of active and inert ingredients) to the test substance utilized in the referenced studies. It is unclear based on the information submitted, which product the registrant is bridging data from (since it is unclear if the test substance is the same in each submitted efficacy study), and if the EP is substantially similar or identical to the product from which bridging is requested.

3a1. Based on the registrant's response to the above, the acceptability of the submitted efficacy studies (MRID 46996502 through 46996508) will be determined. These studies are in reference to requests for product performance data to support label claims for control of different species of mosquitoes and for biting midges, and pre-flood (pre-hatch) applications.

3a2. Should it be determined that the studies mentioned above are unacceptable to fulfill efficacy data requirements, efficacy data are required as discussed in the November 16, 2006 letter to the registrant.

3b. Data were not submitted to support the statement on the label, "Use higher rates when water is deep (>/= 2 feet)…", and are required should the registrant wish to leave the statement on the

label. The registrant may either remove the statement, submit data to support the claim, or revise the statement such that it is obvious that to the applicator that the product is not efficacious in water depths greater than two feet. The current statement is misleading in that it indicates effectiveness in water depths greater than this depth. Submitted efficacy data support label claims in water depth of up to two feet only.

3c. Application rates on the label were adjusted adequately to account for small use sites. The registrant must clarify that these rates are still within the rates utilized in the previously submitted efficacy studies.

4. An assessment on non-target effects from the active ingredient to aquatic species through use of the EP cannot be completed at this time.

4a. The registrant has stated (as in the response regarding efficacy data) that their product is a "me-too" of an already assessed EP, which they did not identify. In order to bridge the estimated environmental concentration (EEC) data submitted for that product (MRID 46996509), the pending EP must be identical or significantly similar (identity and concentration of active and inert ingredients) to the test substance utilized in the referenced study. It is unclear based on the information submitted, which product the registrant is bridging data from, and if the EP is substantially similar or identical to the product from which bridging is requested.

4a1. Based on the registrant's response to the above, the acceptability of the submitted study (MRID 46996509) will be determined.

4a2. Should it be determined that the studies mentioned above are unacceptable to fulfill efficacy data requirements, EEC data are required as discussed in detail in the November 16, 2006 letter to the registrant.

Note to RAL:

1. For future submissions, submitted data from literature to support data requirements should be summarized by the registrant.

2. In future submissions, physical and chemical property data should be addressed/discussed in the product chemistry submission, not solely in the data matrix.

STUDY SUMMARIES

Note: Data Evaluation Records (DERs) were not composed for submitted studies. Detailed summaries of the studies are provided below.

Product Chemistry (MRID 46996501 and cover letter)

Product chemistry deficiencies were addressed in MRID 46996501 and in the registrant's cover letter to the Agency. An acceptable revised CSF was submitted for each source of the active ingredient [redacted]. The CSFs were revised according to the requests from the Agency with regard to the addition of the active ingredient purity, the correct Chemical Abstract Service (CAS) numbers for [redacted], addition of upper and lower certified limits for the pure active ingredient, addition of chemical names for [redacted] and the active ingredient, and the addition of the unit of measurement in box 13a and box 17. A list of suppliers for [redacted] was provided in a footnote on the CSF. To compensate for the variation in concentration of each source of the active ingredient, the concentration of the [redacted]) will be adjusted. This adjustment is reflected on each individual CSF. In MRID 46996501 information regarding this adjustment and an MSDS and information regarding the inert ingredient [redacted] were provided. Data and information that were previously submitted were also addressed in the MRID. The product will be packaged in F-style high-density polyethylene (HDPE) jubs or heat-sealed lined polyethylene bags. Storage stability and corrosion characteristics data are in progress and will be submitted to the Agency upon completion. Other requested physical and chemical properties (flammability, explodability, pH, miscibility and dielectric breakdown voltage) were addressed in the data matrix. The EP does not contain combustible materials, is not potentially explosive, is not dispersible with water, will not be mixed with petroleum solvents, and will not be used around electrical equipment.

Toxicology (cover letter)

Deficiencies identified with the toxicology submission were addressed in the registrant's cover letter to the Agency. The registrant argued their position that Pesticide Registration (PR) Notice 2001-2 is applicable to their product. This PR Notice is not applicable to this product because it contains an EPA List 3 "Inerts of Unknown Toxicity" inert ingredient [redacted]) which is present at greater than 0.1% in the formulation, and does not have a purpose as a carrier or binder.

Product Performance (MRIDs 46996502 through 46996508 and cover letter)

Efficacy and label deficiencies with regard to efficacy were addressed in MRIDs 46996502 through 46996508 and in the cover letter to EPA. Data were not submitted to support the label claim that the product can be applied to water depths greater than 2 feet. Adequate adjustments were made to the application rates on the label to account for small use sites. It was not clarified that these rates are still within the rates utilized in the previously submitted efficacy studies.

Efficacy data were submitted with respect to Altosid® products (an experimental sand granule [1.3% (s)-methoprene], Altosid® sand granules [1.3% (s)-methoprene], SAN 810 I 1.3 GR granules [1.3% (s)-methoprene], unidentified test substance, Altosid® XR-G [1.5% 9s)-methoprene]). Studies have not been completely reviewed because it has not been determined whether the EP for which registration is pending (Z112-009) is identical or significantly similar (identity and concentration of active and inert ingredients) to the test substance utilized in the referenced studies. An explanation regarding the request to bridge the data was not provided; only that the EP has an identical label to that of the unidentified registered product, and that the EP is substantially similar, if not identical to this product. Based on the submitted data, it cannot be determined if Z112-009 will be effective against different mosquito species and biting midges, and if it is efficacious when applied pre-flood (pre-hatch).

Non-Target Effects (MRID 46996509 and cover letter)

A detailed explanation was provided in the November 16, 2006 letter to the registrant with regards to the purpose for requiring estimated environmental concentration (EEC) data on their EP. A study was submitted for an Altosid® product: an experimental sand granule (SAN 810 I 1.3 GR granules [1.3% (s)-methoprene]), which provides an assessment regarding EEC of (s)-methoprene in water. This study has not been completely reviewed because it has not been determined whether the EP for which registration is pending (Z112-009) is identical or significantly similar (identity and concentration of active and inert ingredients) to the test substance utilized in the referenced study, and an explanation regarding the request to bridge the data was not provided (only that the EP has an identical label to that of the unidentified registered product, and that the EP is substantially similar, if not identical to this product). Therefore, it cannot be determined if Z112-009 is potentially toxic to aquatic species through use according to label instructions.

cc: A. L. Gonzales, G. Tomimatsu, BPPD Subject File, IHAD/ARS
A. L. Gonzales, FT, PY-S, 02/28/2007